more. But they then are able to administer certain medications that will calm the patient, prevent them from hurting themselves or hurting the EMT.

So I urge my colleagues to support H.R. 304 as well as the other bipartisan Energy and Commerce bills that are on the floor today.

Mr. Speaker, I call on my colleagues to pass these important bills.

Mr. GENE GREEN of Texas. Mr. Speaker, I yield myself such time as I may consume. I thank Congressman HUDSON and Congressman BUTTERFIELD, both great members of our committee on this very bipartisan bill.

I yield back the balance of my time.

Mr. BURGESS. Mr. Speaker, I urge my colleagues to vote ''yes'' on H.R. 304, and I yield back the balance of my time.

The SPEAKER pro tempore. The question is on the motion offered by the gentleman from Texas (Mr. BURGESS) that the House suspend the rules and pass the bill, H.R. 304.

The question was taken.

The SPEAKER pro tempore. In the opinion of the Chair, two-thirds being in the affirmative, the ayes have it.

Mr. BURGESS. Mr. Speaker, on that I demand the yeas and nays.

The yeas and nays were ordered.

The SPEAKER pro tempore. Pursuant to clause 8 of rule XX, further proceedings on this motion will be postponed.

WEATHER RESEARCH AND FORECASTING INNOVATION ACT OF 2017

Mr. LUCAS. Mr. Speaker, I move to suspend the rules and pass the bill (H.R. 353) to improve the National Oceanic and Atmospheric Administration's weather research through a focused program of investment on affordable and attainable advances in observational, computing, and modeling capabilities to support substantial improvement in weather forecasting and prediction of high impact weather events, to expand commercial opportunities for the provision of weather data, and for other purposes.

The Clerk read the title of the bill.

The text of the bill is as follows:

H.R. 353

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the ''Weather Research and Forecasting Innovation Act of 2017''.

(b) TABLE OF CONTENTS.—The table of contents for this Act is as follows:

SEC. 2. DEFINITIONS.

In this Act:

(1) SEASONAL.—The term ''seasonal'' means the time range between 3 months and 2 years.

(2) STATE.—The term ''State'' means a State, a territory, or possession of the United States, including a Commonwealth, or the District of Columbia.

(3) SUBSEASONAL.—The term ''subseasonal'' means the time range between 2 weeks and 3 months.

(4) UNDER SECRETARY.—The term ''Under Secretary'' means the Under Secretary of Commerce for Oceans and Atmosphere.

(5) WEATHER INDUSTRY AND WEATHER ENTERPRISE.—The terms ''weather industry'' and ''weather enterprise'' are interchangeable in this Act, and include individuals and organizations from public, private, and academic sectors that contribute to the research, development, and production of weather forecast products, and primary consumers of these weather forecast products.

TITLE I—UNITED STATES WEATHER RESEARCH AND FORECASTING IMPROVEMENT

SEC. 101. PUBLIC SAFETY PRIORITY.

In conducting research, the Under Secretary shall prioritize improving weather data, modeling, computing, forecasting, and warnings for the protection of life and property and for the enhancement of the national economy.

SEC. 102. WEATHER RESEARCH AND FORECASTING INNOVATION.

(a) PROGRAM.—The Assistant Administrator for the Office of Oceanic and Atmospheric Research shall conduct a program to develop improved understanding of and forecast capabilities for atmospheric events and their impacts, placing priority on developing more accurate, timely, and effective warnings and forecasts of high impact weather events that endanger life and property.

(b) PROGRAM ELEMENTS.—The program described in subsection (a) shall focus on the following activities:

(1) Improving the fundamental understanding of weather consistent with section 101, including the boundary layer and other processes affecting high impact weather events.

(2) Improving the understanding of how the public receives, interprets, and responds to warnings and forecasts of high impact weather events that endanger life and property.

(3) Research and development, and transfer of knowledge, technologies, and applications to the National Weather Service and other appropriate agencies and entities, including the United States weather industry and academic partners, related to—

(A) advanced radar, radar networking technologies, and other ground-based technologies, including those emphasizing rapid, fine-scale sensing of the boundary layer and lower troposphere, and the use of innovative, dual-polarization, phased-array technologies;

(B) aerial weather observing systems;

(C) high performance computing and information technology and wireless communication networks;

(D) advanced numerical weather prediction systems and forecasting tools and techniques that improve the forecasting of timing, track, intensity, and severity of high impact weather, including through—

(i) the development of more effective mesoscale models;

(ii) more effective use of existing, and the development of new, regional and national cloud-resolving models;

(iii) enhanced global weather models; and

(iv) integrated assessment models;

(E) quantitative assessment tools for measuring the impact and value of data and observing systems, including Observing System Simulation Experiments (as described in section 107), Observing System Experiments, and Analyses of Alternatives;

(F) atmospheric chemistry and interactions essential to accurately characterizing atmospheric composition and predicting meteorological processes, including cloud microphysical, precipitation, and atmospheric electrification processes, to more effectively understand their role in severe weather; and

(G) additional sources of weather data and information, including commercial observing systems.

(4) A technology transfer initiative, carried out jointly and in coordination with the Director of the National Weather Service, and in cooperation with the United States weather industry and academic partners, to ensure continuous development and transition of the latest scientific and technological advances into operations of the National Weather Service and to establish a process to sunset outdated and expensive operational methods and tools to enable cost-effective transfer of new methods and tools into operations.

(c) EXTRAMURAL RESEARCH.—

(1) IN GENERAL.—In carrying out the program under this section, the Assistant Administrator for Oceanic and Atmospheric Research shall collaborate with and support the non-Federal weather research community, which includes institutions of higher education, private entities, and nongovernmental organizations, by making funds available through competitive grants, contracts, and cooperative agreements.

(2) SENSE OF CONGRESS.—It is the sense of Congress that not less than 30 percent of the funds for weather research and development at the Office of Oceanic and Atmospheric Research should be made available for the purpose described in paragraph (1).

(d) ANNUAL REPORT.—Each year, concurrent with the annual budget request submitted by the President to Congress under section 1105 of title 31, United States Code, for the National Oceanic and Atmospheric Administration, the Under Secretary shall submit to Congress a description of current and planned activities under this section.

SEC. 103. TORNADO WARNING IMPROVEMENT AND EXTENSION PROGRAM.

(a) IN GENERAL.—The Under Secretary, in collaboration with the United States weather industry and academic partners, shall establish a tornado warning improvement and extension program.

(b) GOAL.—The goal of such program shall be to reduce the loss of life and economic losses from tornadoes through the development and extension of accurate, effective, and timely tornado forecasts, predictions, and warnings, including the prediction of tornadoes beyond one hour in advance.

(c) PROGRAM PLAN.—Not later than 180 days after the date of the enactment of this Act, the Assistant Administrator for Oceanic and Atmospheric Research, in coordination with the Director of the National Weather Service, shall develop a program plan that details the specific research, development, and technology transfer activities, as well as corresponding resources and timelines, necessary to achieve the program goal.

(d) ANNUAL BUDGET FOR PLAN SUBMITTAL.—Following completion of the plan, the Under Secretary, acting through the Assistant Administrator for Oceanic and Atmospheric Research and in coordination with the Director of the National Weather Service, shall, not less frequently than once each year, submit to Congress a proposed budget corresponding with the activities identified in the plan.

SEC. 104. HURRICANE FORECAST IMPROVEMENT PROGRAM.

(a) IN GENERAL.—The Under Secretary, in collaboration with the United States weather industry and such academic entities as the Administrator considers appropriate, shall maintain a project to improve hurricane forecasting.

(b) GOAL.—The goal of the project maintained under subsection (a) shall be to develop and extend accurate hurricane forecasts and warnings in order to reduce loss of life, injury, and damage to the economy, with a focus on—

(1) improving the prediction of rapid intensification and track of hurricanes;

(2) improving the forecast and communication of storm surges from hurricanes; and

(3) incorporating risk communication research to create more effective watch and warning products.

(c) PROJECT PLAN.—Not later than 1 year after the date of the enactment of this Act, the Under Secretary, acting through the Assistant Administrator for Oceanic and Atmospheric Research and in consultation with the Director of the National Weather Service, shall develop a plan for the project maintained under subsection (a) that details the specific research, development, and technology transfer activities, as well as corresponding resources and timelines, necessary to achieve the goal set forth in subsection (b).

SEC. 105. WEATHER RESEARCH AND DEVELOPMENT PLANNING.

Not later than 1 year after the date of the enactment of this Act, and not less frequently than once each year thereafter, the Under Secretary, acting through the Assistant Administrator for Oceanic and Atmospheric Research and in coordination with the Director of the National Weather Service and the Assistant Administrator for Satellite and Information Services, shall issue a research and development and research to operations plan to restore and maintain United States leadership in numerical weather prediction and forecasting that—

(1) describes the forecasting skill and technology goals, objectives, and progress of the National Oceanic and Atmospheric Administration in carrying out the program conducted under section 102;

(2) identifies and prioritizes specific research and development activities, and performance metrics, weighted to meet the operational weather mission of the National Weather Service to achieve a weather-ready Nation;

(3) describes how the program will collaborate with stakeholders, including the United States weather industry and academic partners; and

(4) identifies, through consultation with the National Science Foundation, the United States weather industry, and academic partners, research necessary to enhance the integration of social science knowledge into weather forecast and warning processes, including to improve the communication of threat information necessary to enable improved severe weather planning and decision-making on the part of individuals and communities.

SEC. 106. OBSERVING SYSTEM PLANNING.

The Under Secretary shall—

(1) develop and maintain a prioritized list of observation data requirements necessary to ensure weather forecasting capabilities to protect life and property to the maximum extent practicable;

(2) consistent with section 107, utilize Observing System Simulation Experiments, Observing System Experiments, Analyses of Alternatives, and other appropriate assessment tools to ensure continuous systemic evaluations of the observing systems, data, and information needed to meet the requirements of paragraph (1), including options to maximize observational capabilities and their cost-effectiveness;

(3) identify current and potential future data gaps in observing capabilities related to the requirements listed under paragraph (1); and

(4) determine a range of options to address gaps identified under paragraph (3).

SEC. 107. OBSERVING SYSTEM SIMULATION EXPERIMENTS.

(a) IN GENERAL.—In support of the requirements of section 106, the Assistant Administrator for Oceanic and Atmospheric Research shall undertake Observing System Simulation Experiments, or such other quantitative assessments as the Assistant Administrator considers appropriate, to quantitatively assess the relative value and benefits of observing capabilities and systems. Technical and scientific Observing System Simulation Experiment evaluations—

(1) may include assessments of the impact of observing capabilities on—

(A) global weather prediction;

(B) hurricane track and intensity forecasting;

(C) tornado warning lead times and accuracy;

(D) prediction of mid-latitude severe local storm outbreaks; and

(E) prediction of storms that have the potential to cause extreme precipitation and flooding lasting from 6 hours to 1 week; and

(2) shall be conducted in cooperation with other appropriate entities within the National Oceanic and Atmospheric Administration, other Federal agencies, the United States weather industry, and academic partners to ensure the technical and scientific merit of results from Observing System Simulation Experiments or other appropriate quantitative assessment methodologies.

(b) REQUIREMENTS.—Observing System Simulation Experiments shall quantitatively—

(1) determine the potential impact of proposed space-based, suborbital, and in situ observing systems on analyses and forecasts, including potential impacts on extreme weather events across all parts of the Nation;

(2) evaluate and compare observing system design options; and

(3) assess the relative capabilities and costs of various observing systems and combinations of observing systems in providing data necessary to protect life and property.

(c) IMPLEMENTATION.—Observing System Simulation Experiments—

(1) shall be conducted prior to the acquisition of major Government-owned or Government-leased operational observing systems, including polar-orbiting and geostationary satellite systems, with a lifecycle cost of more than $500,000,000; and

(2) shall be conducted prior to the purchase of any major new commercially provided data with a lifecycle cost of more than $500,000,000.

(d) PRIORITY OBSERVING SYSTEM SIMULATION EXPERIMENTS.—

(1) GLOBAL NAVIGATION SATELLITE SYSTEM RADIO OCCULTATION.—Not later than 30 days after the date of the enactment of this Act, the Assistant Administrator for Oceanic and Atmospheric Research shall complete an Observing System Simulation Experiment to assess the value of data from Global Navigation Satellite System Radio Occultation.

(2) GEOSTATIONARY HYPERSPECTRAL SOUNDER GLOBAL CONSTELLATION.—Not later than 120 days after the date of the enactment of this Act, the Assistant Administrator for Oceanic and Atmospheric Research shall complete an Observing System Simulation Experiment to assess the value of data from a geostationary hyperspectral sounder global constellation.

(e) RESULTS.—Upon completion of all Observing System Simulation Experiments, the Assistant Administrator shall make available to the public the results an assessment of related private and public sector weather data sourcing options, including their availability, affordability, and cost-effectiveness. Such assessments shall be developed in accordance with section 50503 of title 51, United States Code.

SEC. 108. ANNUAL REPORT ON COMPUTING RESOURCES PRIORITIZATION.

Not later than 1 year after the date of the enactment of this Act and not less frequently than once each year thereafter, the Under Secretary, acting through the Chief Information Officer of the National Oceanic and Atmospheric Administration and in coordination with the Assistant Administrator for Oceanic and Atmospheric Research and the Director of the National Weather Service, shall produce and make publicly available a report that explains how the Under Secretary intends—

(1) to continually support upgrades to pursue the fastest, most powerful, and cost-effective high performance computing technologies in support of its weather prediction mission;

(2) to ensure a balance between the research to operations requirements to develop the next generation of regional and global models as well as highly reliable operational models;

(3) to take advantage of advanced development concepts to, as appropriate, make next generation weather prediction models available in beta-test mode to operational forecasters, the United States weather industry, and partners in academic and Government research; and

(4) to use existing computing resources to improve advanced research and operational weather prediction.

SEC. 109. UNITED STATES WEATHER RESEARCH PROGRAM.

Section 108 of the Oceanic and Atmospheric Administration Authorization Act of 1992 (Public Law 102–567; 15 U.S.C. 313 note) is amended—

(1) in subsection (a)—

(A) in paragraph (3), by striking ''; and'' and inserting a semicolon;

(B) in paragraph (4), by striking the period at the end and inserting a semicolon; and

(C) by inserting after paragraph (4) the following:

''(5) submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives, not less frequently than once each year, a report, including—

''(A) a list of ongoing research projects;

''(B) project goals and a point of contact for each project;

''(C) the 5 projects related to weather observations, short-term weather, or subseasonal forecasts within Office of Oceanic and Atmospheric Research that are closest to operationalization;

''(D) for each project referred to in subparagraph (C)—

''(i) the potential benefit;

''(ii) any barrier to operationalization; and

''(iii) the plan for operationalization, including which line office will financially support the project and how much the line office intends to spend;

''(6) establish teams with staff from the Office of Oceanic and Atmospheric Research and the National Weather Service to oversee the operationalization of research products developed by the Office of Oceanic and Atmospheric Research;

''(7) develop mechanisms for research priorities of the Office of Oceanic and Atmospheric Research to be informed by the relevant line offices within the National Oceanic and Atmospheric Administration, the relevant user community, and the weather enterprise;

''(8) develop an internal mechanism to track the progress of each research project within the Office of Oceanic and Atmospheric Research and mechanisms to terminate a project that is not adequately progressing;

''(9) develop and implement a system to track whether extramural research grant goals were accomplished;

''(10) provide facilities for products developed by the Office of Oceanic and Atmospheric Research to be tested in operational simulations, such as test beds; and

''(11) encourage academic collaboration with the Office of Oceanic and Atmospheric Research and the National Weather Service by facilitating visiting scholars.'';

(2) in subsection (b), in the matter preceding paragraph (1), by striking ''Not later than 90 days after the date of enactment of this Act, the'' and inserting ''The''; and

(3) by adding at the end the following new subsection:

''(c) SUBSEASONAL DEFINED.—In this section, the term 'subseasonal' means the time range between 2 weeks and 3 months.''.

SEC. 110. AUTHORIZATION OF APPROPRIATIONS.

(a) FISCAL YEARS 2017 AND 2018.—For each of fiscal years 2017 and 2018, there are authorized to be appropriated to Office of Oceanic and Atmospheric Research—

(1) $111,516,000 to carry out this title, of which—

(A) $85,758,000 is authorized for weather laboratories and cooperative institutes; and

(B) $25,758,000 is authorized for weather and air chemistry research programs; and

(2) an additional amount of $20,000,000 for the joint technology transfer initiative described in section 102(b)(4).

(b) LIMITATION.—No additional funds are authorized to carry out this title and the amendments made by this title.

TITLE II—SUBSEASONAL AND SEASONAL FORECASTING INNOVATION

SEC. 201. IMPROVING SUBSEASONAL AND SEASONAL FORECASTS.

Section 1762 of the Food Security Act of 1985 (Public Law 99–198; 15 U.S.C. 313 note) is amended—

(1) in subsection (a), by striking ''(a)'' and inserting ''(a) FINDINGS.—'';

(2) in subsection (b), by striking ''(b)'' and inserting ''(b) POLICY.—''; and

(3) by adding at the end the following:

''(c) FUNCTIONS.—The Under Secretary, acting through the Director of the National Weather Service and the heads of such other programs of the National Oceanic and Atmospheric Administration as the Under Secretary considers appropriate, shall—

''(1) collect and utilize information in order to make usable, reliable, and timely foundational forecasts of subseasonal and seasonal temperature and precipitation;

''(2) leverage existing research and models from the weather enterprise to improve the forecasts under paragraph (1);

''(3) determine and provide information on how the forecasted conditions under paragraph (1) may impact—

''(A) the number and severity of droughts, fires, tornadoes, hurricanes, floods, heat waves, coastal inundation, winter storms, high impact weather, or other relevant natural disasters;

''(B) snowpack; and

''(C) sea ice conditions; and

''(4) develop an Internet clearinghouse to provide the forecasts under paragraph (1) and the information under paragraphs (1) and (3) on both national and regional levels.

''(d) COMMUNICATION.—The Director of the National Weather Service shall provide the forecasts under paragraph (1) of subsection (c) and the information on their impacts under paragraph (3) of such subsection to the public, including public and private entities engaged in planning and preparedness, such as National Weather Service Core partners at the Federal, regional, State, tribal, and local levels of government.

''(e) COOPERATION.—The Under Secretary shall build upon existing forecasting and assessment programs and partnerships, including—

''(1) by designating research and monitoring activities related to subseasonal and seasonal forecasts as a priority in one or more solicitations of the Cooperative Institutes of the Office of Oceanic and Atmospheric Research;

''(2) by contributing to the interagency Earth System Prediction Capability; and

''(3) by consulting with the Secretary of Defense and the Secretary of Homeland Security to determine the highest priority subseasonal and seasonal forecast needs to enhance national security.

''(f) FORECAST COMMUNICATION COORDINATORS.—

''(1) IN GENERAL.—The Under Secretary shall foster effective communication, understanding, and use of the forecasts by the intended users of the information described in subsection (d). This may include assistance to States for forecast communication coordinators to enable local interpretation and planning based on the information.

''(2) REQUIREMENTS.—For each State that requests assistance under this subsection, the Under Secretary may—

''(A) provide funds to support an individual in that State—

''(i) to serve as a liaison among the National Oceanic and Atmospheric Administration, other Federal departments and agencies, the weather enterprise, the State, and relevant interests within that State; and

''(ii) to receive the forecasts and information under subsection (c) and disseminate the forecasts and information throughout the State, including to county and tribal governments; and

''(B) require matching funds of at least 50 percent, from the State, a university, a nongovernmental organization, a trade association, or the private sector.

''(3) LIMITATION.—Assistance to an individual State under this subsection shall not exceed $100,000 in a fiscal year.

''(g) COOPERATION FROM OTHER FEDERAL AGENCIES.—Each Federal department and agency shall cooperate as appropriate with the Under Secretary in carrying out this section.

''(h) REPORTS.—

''(1) IN GENERAL.—Not later than 18 months after the date of the enactment of the Weather Research and Forecasting Innovation Act of 2017, the Under Secretary shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report, including—

''(A) an analysis of the how information from the National Oceanic and Atmospheric Administration on subseasonal and seasonal forecasts, as provided under subsection (c), is utilized in public planning and preparedness;

''(B) specific plans and goals for the continued development of the subseasonal and seasonal forecasts and related products described in subsection (c); and

''(C) an identification of research, monitoring, observing, and forecasting requirements to meet the goals described in subparagraph (B).

''(2) CONSULTATION.—In developing the report under paragraph (1), the Under Secretary shall consult with relevant Federal, regional, State, tribal, and local government agencies, research institutions, and the private sector.

''(i) DEFINITIONS.—In this section:

''(1) FOUNDATIONAL FORECAST.—The term 'foundational forecast' means basic weather observation and forecast data, largely in raw form, before further processing is applied.

''(2) NATIONAL WEATHER SERVICE CORE PARTNERS.—The term 'National Weather Service core partners' means government and nongovernment entities which are directly involved in the preparation or dissemination of, or discussions involving, hazardous weather or other emergency information put out by the National Weather Service.

''(3) SEASONAL.—The term 'seasonal' means the time range between 3 months and 2 years.

''(4) STATE.—The term 'State' means a State, a territory, or possession of the United States, including a Commonwealth, or the District of Columbia.

''(5) SUBSEASONAL.—The term 'subseasonal' means the time range between 2 weeks and 3 months.

''(6) UNDER SECRETARY.—The term 'Under Secretary' means the Under Secretary of Commerce for Oceans and Atmosphere.

''(7) WEATHER INDUSTRY AND WEATHER ENTERPRISE.—The terms 'weather industry' and 'weather enterprise' are interchangeable in this section and include individuals and organizations from public, private, and academic sectors that contribute to the research, development, and production of weather forecast products, and primary consumers of these weather forecast products.

''(j) AUTHORIZATION OF APPROPRIATIONS.—For each of fiscal years 2017 and 2018, there are authorized out of funds appropriated to the National Weather Service, $26,500,000 to carry out the activities of this section.''.

TITLE III—WEATHER SATELLITE AND DATA INNOVATION

SEC. 301. NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION SATELLITE AND DATA MANAGEMENT.

(a) SHORT-TERM MANAGEMENT OF ENVIRONMENTAL OBSERVATIONS.—

(1) MICROSATELLITE CONSTELLATIONS.—

(A) IN GENERAL.—The Under Secretary shall complete and operationalize the Constellation Observing System for Meteorology, Ionosphere, and Climate–1 and Climate–2 (COSMIC) in effect on the day before the date of the enactment of this Act—

(i) by deploying constellations of microsatellites in both the equatorial and polar orbits;

(ii) by integrating the resulting data and research into all national operational and research weather forecast models; and

(iii) by ensuring that the resulting data of National Oceanic and Atmospheric Administration's COSMIC–1 and COSMIC–2 programs are free and open to all communities.

(B) ANNUAL REPORTS.—Not less frequently than once each year until the Under Secretary has completed and operationalized the program described in subparagraph (A) pursuant to such subparagraph, the Under Secretary shall submit to Congress a report on the status of the efforts of the Under Secretary to carry out such subparagraph.

(2) INTEGRATION OF OCEAN AND COASTAL DATA FROM THE INTEGRATED OCEAN OBSERVING SYSTEM.—In National Weather Service Regions where the Director of the National Weather Service determines that ocean and coastal data would improve forecasts, the Director, in consultation with the Assistant Administrator for Oceanic and Atmospheric Research and the Assistant Administrator of the National Ocean Service, shall—

(A) integrate additional coastal and ocean observations, and other data and research, from the Integrated Ocean Observing System (IOOS) into regional weather forecasts to improve weather forecasts and forecasting decision support systems; and

(B) support the development of real-time data sharing products and forecast products in collaboration with the regional associations of such system, including contributions from the private sector, academia, and research institutions to ensure timely and accurate use of ocean and coastal data in regional forecasts.

(3) EXISTING MONITORING AND OBSERVATION-CAPABILITY.—The Under Secretary shall identify degradation of existing monitoring and observation capabilities that could lead to a reduction in forecast quality.

(4) SPECIFICATIONS FOR NEW SATELLITE SYSTEMS OR DATA DETERMINED BY OPERATIONAL NEEDS.—In developing specifications for any satellite systems or data to follow the Joint Polar Satellite System, Geostationary Operational Environmental Satellites, and any other satellites, in effect on the day before the date of enactment of this Act, the Under Secretary shall ensure the specifications are determined to the extent practicable by the recommendations of the reports under subsection (b) of this section.

(b) INDEPENDENT STUDY ON FUTURE OF NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION SATELLITE SYSTEMS AND DATA.—

(1) AGREEMENT.—

(A) IN GENERAL.—The Under Secretary shall seek to enter into an agreement with the National Academy of Sciences to perform the services covered by this subsection.

(B) TIMING.—The Under Secretary shall seek to enter into the agreement described in subparagraph (A) before September 30, 2018.

(2) STUDY.—

(A) IN GENERAL.—Under an agreement between the Under Secretary and the National Academy of Sciences under this subsection, the National Academy of Sciences shall conduct a study on matters concerning future satellite data needs.

(B) ELEMENTS.—In conducting the study under subparagraph (A), the National Academy of Sciences shall—

(i) develop recommendations on how to make the data portfolio of the Administration more robust and cost-effective;

(ii) assess the costs and benefits of moving toward a constellation of many small satellites, standardizing satellite bus design, relying more on the purchasing of data, or acquiring data from other sources or methods;

(iii) identify the environmental observations that are essential to the performance of weather models, based on an assessment of Federal, academic, and private sector weather research, and the cost of obtaining the environmental data;

(iv) identify environmental observations that improve the quality of operational and research weather models in effect on the day before the date of enactment of this Act;

(v) identify and prioritize new environmental observations that could contribute to existing and future weather models; and

(vi) develop recommendations on a portfolio of environmental observations that balances essential, quality-improving, and new data, private and nonprivate sources, and space-based and Earth-based sources.

(C) DEADLINE AND REPORT.—In carrying out the study under subparagraph (A), the National Academy of Sciences shall complete and transmit to the Under Secretary a report containing the findings of the National Academy of Sciences with respect to the study not later than 2 years after the date on which the Administrator enters into an agreement with the National Academy of Sciences under paragraph (1)(A).

(3) ALTERNATE ORGANIZATION.—

(A) IN GENERAL.—If the Under Secretary is unable within the period prescribed in subparagraph (B) of paragraph (1) to enter into an agreement described in subparagraph (A) of such paragraph with the National Academy of Sciences on terms acceptable to the Under Secretary, the Under Secretary shall seek to enter into such an agreement with another appropriate organization that—

(i) is not part of the Federal Government;

(ii) operates as a not-for-profit entity; and

(iii) has expertise and objectivity comparable to that of the National Academy of Sciences.

(B) TREATMENT.—If the Under Secretary enters into an agreement with another organization as described in subparagraph (A), any reference in this subsection to the National Academy of Sciences shall be treated as a reference to the other organization.

(4) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated, out of funds appropriated to National Environmental Satellite, Data, and Information Service, to carry out this subsection $1,000,000 for the period encompassing fiscal years 2018 through 2019.

SEC. 302. COMMERCIAL WEATHER DATA.

(a) DATA AND HOSTED SATELLITE PAYLOADS.—Notwithstanding any other provision of law, the Secretary of Commerce may enter into agreements for—

(1) the purchase of weather data through contracts with commercial providers; and

(2) the placement of weather satellite instruments on cohosted government or private payloads.

(b) STRATEGY.—

(1) IN GENERAL.—Not later than 180 days after the date of the enactment of this Act, the Secretary of Commerce, in consultation with the Under Secretary, shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a strategy to enable the procurement of quality commercial weather data. The strategy shall assess the range of commercial opportunities, including public-private partnerships, for obtaining surface-based, aviation-based, and space-based weather observations. The strategy shall include the expected cost-effectiveness of these opportunities as well as provide a plan for procuring data, including an expected implementation timeline, from these nongovernmental sources, as appropriate.

(2) REQUIREMENTS.—The strategy shall include—

(A) an analysis of financial or other benefits to, and risks associated with, acquiring commercial weather data or services, including through multiyear acquisition approaches;

(B) an identification of methods to address planning, programming, budgeting, and execution challenges to such approaches, including—

(i) how standards will be set to ensure that data is reliable and effective;

(ii) how data may be acquired through commercial experimental or innovative techniques and then evaluated for integration into operational use;

(iii) how to guarantee public access to all forecast-critical data to ensure that the United States weather industry and the public continue to have access to information critical to their work; and

(iv) in accordance with section 50503 of title 51, United States Code, methods to address potential termination liability or cancellation costs associated with weather data or service contracts; and

(C) an identification of any changes needed in the requirements development and approval processes of the Department of Commerce to facilitate effective and efficient implementation of such strategy.

(3) AUTHORITY FOR AGREEMENTS.—The Assistant Administrator for National Environmental Satellite, Data, and Information Service may enter into multiyear agreements necessary to carry out the strategy developed under this subsection.

(c) PILOT PROGRAM.—

(1) CRITERIA.—Not later than 30 days after the date of the enactment of this Act, the Under Secretary shall publish data and metadata standards and specifications for space-based commercial weather data, including radio occultation data, and, as soon as possible, geostationary hyperspectral sounder data.

(2) PILOT CONTRACTS.—

(A) CONTRACTS.—Not later than 90 days after the date of enactment of this Act, the Under Secretary shall, through an open competition, enter into at least one pilot contract with one or more private sector entities capable of providing data that meet the standards and specifications set by the

Under Secretary for providing commercial weather data in a manner that allows the Under Secretary to calibrate and evaluate the data for its use in National Oceanic and Atmospheric Administration meteorological models.

(B) ASSESSMENT OF DATA VIABILITY.—Not later than the date that is 3 years after the date on which the Under Secretary enters into a contract under subparagraph (A), the Under Secretary shall assess and submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives the results of a determination of the extent to which data provided under the contract entered into under subparagraph (A) meet the criteria published under paragraph (1) and the extent to which the pilot program has demonstrated—

(i) the viability of assimilating the commercially provided data into National Oceanic and Atmospheric Administration meteorological models;

(ii) whether, and by how much, the data add value to weather forecasts; and

(iii) the accuracy, quality, timeliness, validity, reliability, usability, information technology security, and cost-effectiveness of obtaining commercial weather data from private sector providers.

(3) AUTHORIZATION OF APPROPRIATIONS.—For each of fiscal years 2017 through 2020, there are authorized to be appropriated for procurement, acquisition, and construction at National Environmental Satellite, Data, and Information Service, $6,000,000 to carry out this subsection.

(d) OBTAINING FUTURE DATA.—If an assessment under subsection (c)(2)(B) demonstrates the ability of commercial weather data to meet data and metadata standards and specifications published under subsection (c)(1), the Under Secretary shall—

(1) where appropriate, cost-effective, and feasible, obtain commercial weather data from private sector providers;

(2) as early as possible in the acquisition process for any future National Oceanic and Atmospheric Administration meteorological space system, consider whether there is a suitable, cost-effective, commercial capability available or that will be available to meet any or all of the observational requirements by the planned operational date of the system;

(3) if a suitable, cost-effective, commercial capability is or will be available as described in paragraph (2), determine whether it is in the national interest to develop a governmental meteorological space system; and

(4) submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report detailing any determination made under paragraphs (2) and (3).

(e) DATA SHARING PRACTICES.—The Under Secretary shall continue to meet the international meteorological agreements into which the Under Secretary has entered, including practices set forth through World Meteorological Organization Resolution 40.

SEC. 303. UNNECESSARY DUPLICATION.

In meeting the requirements under this title, the Under Secretary shall avoid unnecessary duplication between public and private sources of data and the corresponding expenditure of funds and employment of personnel.

TITLE IV—FEDERAL WEATHER COORDINATION

SEC. 401. ENVIRONMENTAL INFORMATION SERVICES WORKING GROUP.

(a) ESTABLISHMENT.—The National Oceanic and Atmospheric Administration Science Advisory Board shall continue to maintain a standing working group named the Environmental Information Services Working Group (in this section referred to as the ''Working Group'')—

(1) to provide advice for prioritizing weather research initiatives at the National Oceanic and Atmospheric Administration to produce real improvement in weather forecasting;

(2) to provide advice on existing or emerging technologies or techniques that can be found in private industry or the research community that could be incorporated into forecasting at the National Weather Service to improve forecasting skill;

(3) to identify opportunities to improve—

(A) communications between weather forecasters, Federal, State, local, tribal, and other emergency management personnel, and the public; and

(B) communications and partnerships among the National Oceanic and Atmospheric Administration and the private and academic sectors; and

(4) to address such other matters as the Science Advisory Board requests of the Working Group.

(b) COMPOSITION.—

(1) IN GENERAL.—The Working Group shall be composed of leading experts and innovators from all relevant fields of science and engineering including atmospheric chemistry, atmospheric physics, meteorology, hydrology, social science, risk communications, electrical engineering, and computer sciences. In carrying out this section, the Working Group may organize into subpanels.

(2) NUMBER.—The Working Group shall be composed of no fewer than 15 members. Nominees for the Working Group may be forwarded by the Working Group for approval by the Science Advisory Board. Members of the Working Group may choose a chair (or co-chairs) from among their number with approval by the Science Advisory Board.

(c) ANNUAL REPORT.—Not less frequently than once each year, the Working Group shall transmit to the Science Advisory Board for submission to the Under Secretary a report on progress made by National Oceanic and Atmospheric Administration in adopting the Working Group's recommendations. The Science Advisory Board shall transmit this report to the Under Secretary. Within 30 days of receipt of such report, the Under Secretary shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a copy of such report.

SEC. 402. INTERAGENCY WEATHER RESEARCH AND FORECAST INNOVATION COORDINATION.

(a) ESTABLISHMENT.—The Director of the Office of Science and Technology Policy shall establish an Interagency Committee for Advancing Weather Services to improve coordination of relevant weather research and forecast innovation activities across the Federal Government. The Interagency Committee shall—

(1) include participation by the National Aeronautics and Space Administration, the Federal Aviation Administration, National Oceanic and Atmospheric Administration and its constituent elements, the National Science Foundation, and such other agencies involved in weather forecasting research as the President determines are appropriate;

(2) identify and prioritize top forecast needs and coordinate those needs against budget requests and program initiatives across participating offices and agencies; and

(3) share information regarding operational needs and forecasting improvements across relevant agencies.

(b) CO-CHAIR.—The Federal Coordinator for Meteorology shall serve as a co-chair of this panel.

(c) FURTHER COORDINATION.—The Director of the Office of Science and Technology Policy shall take such other steps as are necessary to coordinate the activities of the Federal Government with those of the United States weather industry, State governments, emergency managers, and academic researchers.

SEC. 403. OFFICE OF OCEANIC AND ATMOSPHERIC RESEARCH AND NATIONAL WEATHER SERVICE EXCHANGE PROGRAM.

(a) IN GENERAL.—The Assistant Administrator for Oceanic and Atmospheric Research and the Director of National Weather Service may establish a program to detail Office of Oceanic and Atmospheric Research personnel to the National Weather Service and National Weather Service personnel to the Office of Oceanic and Atmospheric Research.

(b) GOAL.—The goal of this program is to enhance forecasting innovation through regular, direct interaction between the Office of Oceanic and Atmospheric Research's world-class scientists and the National Weather Service's operational staff.

(c) ELEMENTS.—The program shall allow up to 10 Office of Oceanic and Atmospheric Research staff and National Weather Service staff to spend up to 1 year on detail. Candidates shall be jointly selected by the Assistant Administrator for Oceanic and Atmospheric Research and the Director of the National Weather Service.

(d) ANNUAL REPORT.—Not less frequently than once each year, the Under Secretary shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report on participation in such program and shall highlight any innovations that come from this interaction.

SEC. 404. VISITING FELLOWS AT NATIONAL WEATHER SERVICE.

(a) IN GENERAL.—The Director of the National Weather Service may establish a program to host postdoctoral fellows and academic researchers at any of the National Centers for Environmental Prediction.

(b) GOAL.—This program shall be designed to provide direct interaction between forecasters and talented academic and private sector researchers in an effort to bring innovation to forecasting tools and techniques to the National Weather Service.

(c) SELECTION AND APPOINTMENT.—Such fellows shall be competitively selected and appointed for a term not to exceed 1 year.

SEC. 405. WARNING COORDINATION METEOROLOGISTS AT WEATHER FORECAST OFFICES OF NATIONAL WEATHER SERVICE.

(a) DESIGNATION OF WARNING COORDINATION METEOROLOGISTS.—

(1) IN GENERAL.—The Director of the National Weather Service shall designate at least 1 warning coordination meteorologist at each weather forecast office of the National Weather Service.

(2) NO ADDITIONAL EMPLOYEES AUTHORIZED.—Nothing in this section shall be construed to authorize or require a change in the authorized number of full time equivalent employees in the National Weather Service or otherwise result in the employment of any additional employees.

(3) PERFORMANCE BY OTHER EMPLOYEES.—Performance of the responsibilities outlined in this section is not limited to the warning coordination meteorologist position.

(b) PRIMARY ROLE OF WARNING COORDINATION METEOROLOGISTS.—The primary role of the warning coordination meteorologist shall be to carry out the responsibilities required by this section.

(c) RESPONSIBILITIES.—

(1) IN GENERAL.—Subject to paragraph (2), consistent with the analysis described in section 409, and in order to increase impact-based decision support services, each warning coordination meteorologist designated under subsection (a) shall—

(A) be responsible for providing service to the geographic area of responsibility covered by the weather forecast office at which the warning coordination meteorologist is employed to help ensure that users of products of the National Weather Service can respond effectively to improve outcomes from weather events;

(B) liaise with users of products and services of the National Weather Service, such as the public, media outlets, users in the aviation, marine, and agricultural communities, and forestry, land, and water management interests, to evaluate the adequacy and usefulness of the products and services of the National Weather Service;

(C) collaborate with such weather forecast offices and State, local, and tribal government agencies as the Director considers appropriate in developing, proposing, and implementing plans to develop, modify, or tailor products and services of the National Weather Service to improve the usefulness of such products and services;

(D) ensure the maintenance and accuracy of severe weather call lists, appropriate office severe weather policy or procedures, and other severe weather or dissemination methodologies or strategies; and

(E) work closely with State, local, and tribal emergency management agencies, and other agencies related to disaster management, to ensure a planned, coordinated, and effective preparedness and response effort.

(2) OTHER STAFF.—The Director may assign a responsibility set forth in paragraph (1) to such other staff as the Director considers appropriate to carry out such responsibility.

(d) ADDITIONAL RESPONSIBILITIES.—

(1) IN GENERAL.—Subject to paragraph (2), a warning coordination meteorologist designated under subsection (a) may—

(A) work with a State agency to develop plans for promoting more effective use of products and services of the National Weather Service throughout the State;

(B) identify priority community preparedness objectives;

(C) develop plans to meet the objectives identified under paragraph (2); and

(D) conduct severe weather event preparedness planning and citizen education efforts with and through various State, local, and tribal government agencies and other disaster management-related organizations.

(2) OTHER STAFF.—The Director may assign a responsibility set forth in paragraph (1) to such other staff as the Director considers appropriate to carry out such responsibility.

(e) PLACEMENT WITH STATE AND LOCAL EMERGENCY MANAGERS.—

(1) IN GENERAL.—In carrying out this section, the Director of the National Weather Service may place a warning coordination meteorologist designated under subsection (a) with a State or local emergency manager if the Director considers doing so is necessary or convenient to carry out this section.

(2) TREATMENT.—If the Director determines that the placement of a warning coordination meteorologist placed with a State or local emergency manager under paragraph (1) is near a weather forecast office of the National Weather Service, such placement shall be treated as designation of the warning coordination meteorologist at such weather forecast office for purposes of subsection (a).

SEC. 406. IMPROVING NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION COMMUNICATION OF HAZARDOUS WEATHER AND WATER EVENTS.

(a) PURPOSE OF SYSTEM.—For purposes of the assessment required by subsection (b)(1)(A), the purpose of National Oceanic and Atmospheric Administration system for issuing watches and warnings regarding hazardous weather and water events shall be risk communication to the general public that informs action to prevent loss of life and property.

(b) ASSESSMENT OF SYSTEM.—

(1) IN GENERAL.—Not later than 2 years after the date of the enactment of this Act, the Under Secretary shall—

(A) assess the National Oceanic and Atmospheric Administration system for issuing watches and warnings regarding hazardous weather and water events; and

(B) submit to Congress a report on the findings of the Under Secretary with respect to the assessment conducted under subparagraph (A).

(2) ELEMENTS.—The assessment required by paragraph (1)(A) shall include the following:

(A) An evaluation of whether the National Oceanic and Atmospheric Administration system for issuing watches and warnings regarding hazardous weather and water events meets the purpose described in subsection (a).

(B) Development of recommendations for—

(i) legislative and administrative action to improve the system described in paragraph (1)(A); and

(ii) such research as the Under Secretary considers necessary to address the focus areas described in paragraph (3).

(3) FOCUS AREAS.—The assessment required by paragraph (1)(A) shall focus on the following:

(A) Ways to communicate the risks posed by hazardous weather or water events to the public that are most likely to result in action to mitigate the risk.

(B) Ways to communicate the risks posed by hazardous weather or water events to the public as broadly and rapidly as practicable.

(C) Ways to preserve the benefits of the existing watches and warnings system.

(D) Ways to maintain the utility of the watches and warnings system for Government and commercial users of the system.

(4) CONSULTATION.—In conducting the assessment required by paragraph (1)(A), the Under Secretary shall—

(A) consult with such line offices within the National Oceanic and Atmospheric Administration as the Under Secretary considers relevant, including the the National Ocean Service, the National Weather Service, and the Office of Oceanic and Atmospheric Research;

(B) consult with individuals in the academic sector, including individuals in the field of social and behavioral sciences, and other weather services;

(C) consult with media outlets that will be distributing the watches and warnings;

(D) consult with non-Federal forecasters that produce alternate severe weather risk communication products;

(E) consult with emergency planners and responders, including State and local emergency management agencies, and other government users of the watches and warnings system, including the Federal Emergency Management Agency, the Office of Personnel Management, the Coast Guard, and such other Federal agencies as the Under Secretary determines rely on watches and warnings for operational decisions; and

(F) make use of the services of the National Academy of Sciences, as the Under Secretary considers necessary and practicable, including contracting with the National Research Council to review the scientific and technical soundness of the assessment required by paragraph (1)(A), including the recommendations developed under paragraph (2)(B).

(5) METHODOLOGIES.—In conducting the assessment required by paragraph (1)(A), the Under Secretary shall use such methodologies as the Under Secretary considers are generally accepted by the weather enterprise, including social and behavioral sciences.

(c) IMPROVEMENTS TO SYSTEM.—

(1) IN GENERAL.—The Under Secretary shall, based on the assessment required by subsection (b)(1)(A), make such recommendations to Congress to improve the system as the Under Secretary considers necessary—

(A) to improve the system for issuing watches and warnings regarding hazardous weather and water events; and

(B) to support efforts to satisfy research needs to enable future improvements to such system.

(2) REQUIREMENTS REGARDING RECOMMENDATIONS.—In carrying out paragraph (1)(A), the Under Secretary shall ensure that any recommendation that the Under Secretary considers a major change—

(A) is validated by social and behavioral science using a generalizable sample;

(B) accounts for the needs of various demographics, vulnerable populations, and geographic regions;

(C) accounts for the differences between types of weather and water hazards;

(D) responds to the needs of Federal, State, and local government partners and media partners; and

(E) accounts for necessary changes to Federally operated watch and warning propagation and dissemination infrastructure and protocols.

(d) WATCHES AND WARNINGS DEFINED.—

(1) IN GENERAL.—Except as provided in paragraph (2), in this section, the terms ''watch'' and ''warning'', with respect to a hazardous weather and water event, mean products issued by the Administration, intended for consumption by the general public, to alert the general public to the potential for or presence of the event and to inform action to prevent loss of life and property.

(2) EXCEPTION.—In this section, the terms ''watch'' and ''warning'' do not include technical or specialized meteorological and hydrological forecasts, outlooks, or model guidance products.

SEC. 407. NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION WEATHER READY ALL HAZARDS AWARD PROGRAM.

(a) PROGRAM.—The Director of the National Weather Service is authorized to establish the National Oceanic and Atmospheric Administration Weather Ready All Hazards Award Program. This award program shall provide annual awards to honor individuals or organizations that use or provide National Oceanic and Atmospheric Administration Weather Radio All Hazards receivers or transmitters to save lives and protect property. Individuals or organizations that utilize other early warning tools or applications also qualify for this award.

(b) GOAL.—This award program draws attention to the life-saving work of the National Oceanic and Atmospheric Administration Weather Ready All Hazards Program, as well as emerging tools and applications, that provide real-time warning to individuals and communities of severe weather or other hazardous conditions.

(c) PROGRAM ELEMENTS.—

(1) NOMINATIONS.—Nominations for this award shall be made annually by the Weather Field Offices to the Director of the National Weather Service. Broadcast meteorologists, weather radio manufacturers and weather warning tool and application developers, emergency managers, and public safety officials may nominate individuals or organizations to their local Weather Field Offices, but the final list of award nominees must come from the Weather Field Offices.

(2) SELECTION OF AWARDEES.—Annually, the Director of the National Weather Service shall choose winners of this award whose timely actions, based on National Oceanic and Atmospheric Administration Weather Radio All Hazards receivers or transmitters or other early warning tools and applications, saved lives or property, or demonstrated public service in support of weather or all hazard warnings.

(3) AWARD CEREMONY.—The Director of the National Weather Service shall establish a means of making these awards to provide maximum public awareness of the importance of National Oceanic and Atmospheric Administration Weather Radio, and such other warning tools and applications as are represented in the awards.

SEC. 408. DEPARTMENT OF DEFENSE WEATHER FORECASTING ACTIVITIES.

Not later than 60 days after the date of the enactment of this Act, the Under Secretary shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report analyzing the impacts of the proposed Air Force divestiture in the United States Weather Research and Forecasting Model, including—

(1) the impact on—

(A) the United States weather forecasting capabilities;

(B) the accuracy of civilian regional forecasts;

(C) the civilian readiness for traditional weather and extreme weather events in the United States; and

(D) the research necessary to develop the United States Weather Research and Forecasting Model; and

(2) such other analysis relating to the divestiture as the Under Secretary considers appropriate.

SEC. 409. NATIONAL WEATHER SERVICE; OPERATIONS AND WORKFORCE ANALYSIS.

The Under Secretary shall contract or continue to partner with an external organization to conduct a baseline analysis of National Weather Service operations and workforce.

SEC. 410. REPORT ON CONTRACT POSITIONS AT NATIONAL WEATHER SERVICE.

(a) REPORT REQUIRED.—Not later than 180 days after the date of the enactment of this Act, the Under Secretary shall submit to Congress a report on the use of contractors at the National Weather Service for the most recently completed fiscal year.

(b) CONTENTS.—The report required by subsection (a) shall include, with respect to the most recently completed fiscal year, the following:

(1) The total number of full-time equivalent employees at the National Weather Service, disaggregated by each equivalent level of the General Schedule.

(2) The total number of full-time equivalent contractors at the National Weather Service, disaggregated by each equivalent level of the General Schedule that most closely approximates their duties.

(3) The total number of vacant positions at the National Weather Service on the day before the date of enactment of this Act, disaggregated by each equivalent level of the General Schedule.

(4) The 5 most common positions filled by full-time equivalent contractors at the National Weather Service and the equivalent level of the General Schedule that most closely approximates the duties of such positions.

(5) Of the positions identified under paragraph (4), the percentage of full-time equivalent contractors in those positions that have held a prior position at the National Weather Service or another entity in National Oceanic and Atmospheric Administration.

(6) The average full-time equivalent salary for Federal employees at the National Weather Service for each equivalent level of the General Schedule.

(7) The average salary for full-time equivalent contractors performing at each equivalent level of the General Schedule at the National Weather Service.

(8) A description of any actions taken by the Under Secretary to respond to the issues raised by the Inspector General of the Department of Commerce regarding the hiring of former National Oceanic and Atmospheric Administration employees as contractors at the National Weather Service such as the issues raised in the Investigative Report dated June 2, 2015 (OIG–12–0447).

(c) ANNUAL PUBLICATION.—For each fiscal year after the fiscal year covered by the report required by subsection (a), the Under Secretary shall, not later than 180 days after the completion of the fiscal year, publish on a publicly accessible Internet website the information described in paragraphs (1) through (8) of subsection (b) for such fiscal year.

SEC. 411. WEATHER IMPACTS TO COMMUNITIES AND INFRASTRUCTURE.

(a) REVIEW.—

(1) IN GENERAL.—The Director of the National Weather Service shall review existing research, products, and services that meet the specific needs of the urban environment, given its unique physical characteristics and forecasting challenges.

(2) ELEMENTS.—The review required by paragraph (1) shall include research, products, and services with the potential to improve modeling and forecasting capabilities, taking into account factors including varying building heights, impermeable surfaces, lack of tree canopy, traffic, pollution, and inter-building wind effects.

(b) REPORT AND ASSESSMENT.—Upon completion of the review required by subsection (a), the Under Secretary shall submit to Congress a report on the research, products, and services of the National Weather Service, including an assessment of such research, products, and services that is based on the review, public comment, and recent publications by the National Academy of Sciences.

SEC. 412. WEATHER ENTERPRISE OUTREACH.

(a) IN GENERAL.—The Under Secretary may establish mechanisms for outreach to the weather enterprise—

(1) to assess the weather forecasts and forecast products provided by the National Oceanic and Atmospheric Administration; and

(2) to determine the highest priority weather forecast needs of the community described in subsection (b).

(b) OUTREACH COMMUNITY.—In conducting outreach under subsection (a), the Under Secretary shall contact leading experts and innovators from relevant stakeholders, including the representatives from the following:

(1) State or local emergency management agencies.

(2) State agriculture agencies.

(3) Indian tribes (as defined in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 5304)) and Native Hawaiians (as defined in section 6207 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7517)).

(4) The private aerospace industry.

(5) The private earth observing industry.

(6) The operational forecasting community.

(7) The academic community.

(8) Professional societies that focus on meteorology.

(9) Such other stakeholder groups as the Under Secretary considers appropriate.

The SPEAKER pro tempore. Pursuant to the rule, the gentleman from Oklahoma (Mr. LUCAS) and the gentlewoman from Oregon (Ms. BONAMICI) each will control 20 minutes.

The Chair recognizes the gentleman from Oklahoma.

GENERAL LEAVE

Mr. LUCAS. Mr. Speaker, I ask unanimous consent that all Members have 5 legislative days to revise and extend their remarks and to include extraneous material on H.R. 353, the bill now under consideration.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from Oklahoma?

There was no objection.

Mr. LUCAS. Mr. Speaker, I yield myself such time as I may consume.

I first thank the gentleman from Texas, Chairman SMITH, for his continued leadership on the Science Committee.

H.R. 353, the Weather Research and Forecasting Innovation Act of 2017, prioritizes improving weather forecasting for the protection of lives and property at the National Oceanic and Atmospheric Administration. This bill does so by focusing research and computing resources on improved weather forecasting, quantitative observing data planning, next generation modeling, and an emphasis on research-to-operations technology transfer.

As a Representative from Oklahoma, I understand the need for accurate and timely weather predictions firsthand. Every year, the loss of life from deadly tornadoes in my home State is a stark reminder that we can do better to predict severe weather events and provide longer lead times to protect Americans in harm's way.

I am proud that the legislation has a dedicated Tornado Warning Improvement Program. The goal of this program is to reduce the loss of life from tornadoes by advancing the understanding of fundamental meteorological science allowing detection and notifications that are more accurate, effective, and timely. Constituents in my home State will benefit greatly from longer tornado warning lead times, which will save lives and better protect property.

H.R. 353 makes clear that NOAA will prioritize weather research and protect lives and property through a focused, affordable, attainable, forward-looking research plan at the agency's Research Office.

The bill also encourages innovations and new technology capacities by creating a joint technology transfer fund in NOAA's Office of Oceanic and Atmospheric Research. This transfer is

essential to get new forecasting, models, and technologies out of the research side of NOAA and into our operational forecast to better protect our country.

The bill directs NOAA to develop plans to restore our country's leadership in weather forecasting. It is no secret that many people in our weather community are distraught that our forecasting capacities have deteriorated in recent years.

While other countries are making great strides in weather advancements, Americans are paying the price for diminished leadership with their lives and their wallets. This is yet another reminder that we can do better.

This legislation directs NOAA to actively consider new commercial data and private sector solutions to further enhance our weather forecasting capacities. The bill also includes a pilot project, which will provide NOAA a clear and credible demonstration of the valuable data from commercial technologies available today.

H.R. 353 is the result of 4 years of work to craft a meaningful package that will create new and real improvements to our country's weather forecasting systems. The time has come for Americans to have the most accurate and timely weather predictions. They deserve nothing less.

Mr. Speaker, I reserve the balance of my time.

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE, HOUSE OF REPRESENTATIVES,
Washington, DC, January 9, 2017.

Hon. LAMAR SMITH,
Chairman, Committee on Science, Space, and Technology, Washington, DC.

DEAR CHAIRMAN SMITH: I write concerning H.R. 353, the Weather Research and Forecasting Innovation Act of 2017. This legislation includes matters that fall within the Rule X jurisdiction of the Committee on Transportation and Infrastructure.

In order to expedite Floor consideration of H.R. 353, the Committee on Transportation and Infrastructure will forgo action on this bill. However, this is conditional on our mutual understanding that forgoing consideration of the bill does not prejudice the Committee with respect to the appointment of conferees or to any future jurisdictional claim over the subject matters contained in the bill or similar legislation that fall within the Committee's Rule X jurisdiction. I appreciate you working with us on the base text of the bill and request you urge the Speaker to name members of the Committee to any conference committee named to consider such provisions.

Please place a copy of this letter and your response acknowledging our jurisdictional interest in the Congressional Record during House Floor consideration of the bill. I look forward to working with the Committee on Science, Space, and Technology as the bill moves through the legislative process.

Sincerely,

BILL SHUSTER,
Chairman.

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY, HOUSE OF REPRESENTATIVES,
Washington, DC, January 9, 2017.

Hon. BILL SHUSTER,
Chairman, Committee on Transportation and Infrastructure, House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: Thank you for your letter regarding H.R. 353, the ''Weather Research and Forecasting Innovation Act of 2017.'' I appreciate your support in bringing this legislation before the House of Representatives, and accordingly, understand that the Committee on Transportation and Infrastructure will forego action on the bill.

The Committee on Science, Space, and Technology concurs with the mutual understanding that by foregoing consideration of H.R. 353 at this time, the Committee on Transportation and Infrastructure does not waive any jurisdiction over the subject matter contained in this bill or similar legislation in the future. In addition, should a conference on this bill be necessary, I would support your request to have the Committee on Transportation and Infrastructure represented on the conference committee.

I will insert copies of this exchange in the Congressional Record during consideration of this bill on the House floor. I appreciate your cooperation regarding this legislation and look forward to continuing to work with the Committee on Transportation and Infrastructure as the bill moves through the legislative process.

Sincerely,

LAMAR SMITH,
Chairman.

Ms. BONAMICI. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, I rise in support of H.R. 353, the Weather Research and Forecasting Innovation Act. This bill, introduced by my colleague, Mr. LUCAS, is a product of hard work and negotiation over the past two Congresses.

In addition to Mr. LUCAS, I thank Chairman SMITH and also Environment Subcommittee chair, Mr. BRIDENSTINE, and former chair, Mr. CHRIS STEWART, who were great partners in this process. The language before us today is a result of a truly bipartisan and bicameral effort.

The National Oceanic and Atmospheric Administration is responsible for many important tasks at the cutting edge of science and public service, and weather forecasting is one of the tasks most critical to our country.

In the northwest Oregon communities I represent, my constituents rely on timely weather forecasts to decide when to harvest their crops, when to go to sea to fish, how to navigate the roads safely when there is freezing rain or snow, and to prepare for possible flood conditions.

The National Weather Service provides excellent forecasting products to support our economy, but with the increasing frequency of severe weather events, there can be and should be improvements in our forecasting capabilities and delivery.

For example, forecasts can be more precise regarding what will happen and when. Improved forecasts can provide more lead time to allow communities to prepare, especially in severe weather events. Forecast information should also be communicated more effectively to the public and those in harm's way to reduce the loss of life and property. This bill is designed to address those important goals.

The bill connects the research side of NOAA, the Office of Oceanic and Atmospheric Research, more effectively to the forecasting needs of the National Weather Service. This research-to-operations pipeline is essential for the continued improvement of our weather forecasting enterprise.

□ 1715

The bill contains several provisions that will improve interactions and information sharing between NOAA's researchers and the National Weather Service. It also improves communications between NOAA and the broader research and private weather communities.

The bill also establishes interagency coordination, through the Office of Science and Technology Policy, across multiple agencies outside of NOAA that share responsibilities for weather research and forecast communications. This is essential as we face budget constraints, and it will help speed the adoption of best tools and practices across the various agencies.

H.R. 353 also recognizes that even the best forecasts will not serve the public's needs unless there are effective communications systems. The bill directs NOAA to do more research, listen to experts, and improve its risk communications techniques.

The bill also reestablishes a program that allows NOAA to give awards to people who save the lives of others through NOAA's Weather Radio All Hazards program. The bill also formally establishes the pilot program currently operating at NOAA to engage in contracts with the commercial sector for weather forecasting data.

Additionally, the bill requires NOAA to examine the benefits and costs of different sensors by running simulations of different configurations of instruments and datasets on forecasting accuracy. It is important that these requirements are not too prescriptive so that NOAA can use the most efficient, accurate, and cost-effective model for this situation.

This legislation will produce advances in weather forecasting and capabilities that will result in better development of forecast innovations and technology. Ultimately, this will save American lives and property.

I thank the Members on both sides of the aisle for their input and support. Also, I would like to thank the hard-working committee staff on both sides of the aisle for their efforts to continue negotiations to move this bill forward.

I ask my colleagues to support this bill.

Mr. Speaker, I reserve the balance of my time.

Mr. LUCAS. Mr. Speaker, I yield 3 minutes to the gentleman from Oklahoma (Mr. BRIDENSTINE), my colleague

who has worked very diligently on this effort for a number of years.

Mr. BRIDENSTINE. Mr. Speaker, every year that I have had the honor to serve Oklahoma's First Congressional District, I have also faced the unfortunate reality that I will lose constituents to tornadoes, as will many of us who represent constituents in Oklahoma. This terrible fact has motivated me and others from our delegation to work hard for policies that will save lives and property and move us to a day where we have zero deaths from tornadoes or other extreme weather events.

I would like to thank Chairman SMITH, Vice Chairman LUCAS, and Environment Subcommittee Ranking Member BONAMICI for their tireless efforts to see this bipartisan legislation move forward.

The Weather Research and Forecasting Innovation Act of 2017 is the product of extensive negotiations between the Environment Subcommittee, which I chair, and the Senate Commerce Committee, and I am proud of the bipartisan and bicameral agreement that this bill represents.

H.R. 353 directs the NOAA Administrator to prioritize activities that will save lives and protect property. Again, this is critically important to my State, which is in the heart of tornado alley.

This legislation will help NOAA develop more accurate and timely warnings for hurricanes, tornadoes, and other high-impact weather events. It calls on NOAA to develop a plan to maintain forecasting capabilities that are second to none in the world, primarily because, by some metrics, we lag behind our counterparts in Europe, the U.K. and Canada.

The bill encourages better cooperation across NOAA offices and enhances collaboration with universities, such as the University of Oklahoma, which is a national leader in weather research.

It will also ensure that innovative methods and technologies, such as warn on forecast, currently being developed at the National Severe Storms Laboratory in Norman, Oklahoma, are rapidly deployed in operational status so that the American people can benefit.

Further, beyond improvements to short-term forecasts of extreme events, the bill directs NOAA to improve our understanding of seasonal forecasts, which can be immensely useful to industries such as agriculture.

Mr. Speaker, I am particularly pleased this bill finally authorizes a commercial weather data pilot program. H.R. 353 authorizes $24 million over the next 4 years for a pilot program for NOAA to purchase commercial space-based weather data and test it against NOAA's proprietary data. This can improve forecasts and save the Federal Government money. This will allow NOAA to continue to expand upon the two pilot contracts it awarded in September of last year.

Mr. Speaker, this has the potential to be a paradigm-shifting provision. Commercial weather data can augment the data we receive from systems such as JPSS and GOES, while also serving as a mitigation strategy in the event we experience a gap in weather data from these systems. More data from innovative sources has a real potential to improve our forecasting capabilities.

The SPEAKER pro tempore. The time of the gentleman has expired.

Mr. LUCAS. Mr. Speaker, I yield the gentleman an additional 30 seconds.

Mr. BRIDENSTINE. Mr. Speaker, I believe there will come a time when there will be zero deaths from tornadoes. I think this bill will help us implement the necessary steps to get there.

I once again thank my colleagues on the Science, Space, and Technology Committee for all their very hard work to get this done, and I encourage our counterparts in the Senate to move this legislation to the President's desk quickly.

I urge my colleagues to support this bill.

Ms. BONAMICI. Mr. Speaker, I reserve the balance of my time.

Mr. LUCAS. Mr. Speaker, I yield 5 minutes to the gentleman from Texas (Mr. SMITH) who has guided the Science, Space, and Technology Committee ever so carefully for a number of years.

Mr. SMITH of Texas. Mr. Speaker, first of all, I thank the gentleman from Oklahoma and the vice chairman of the Science, Space, and Technology Committee for yielding, and I thank both him and Mr. BRIDENSTINE, another gentleman from Oklahoma and a member of the Science, Space, and Technology Committee, for taking the initiative and introducing this legislation.

H.R. 353, Weather Research and Forecasting Innovation Act of 2017, will transform our Nation's weather-gathering efforts and help save lives and property.

Severe weather routinely affects large portions of the United States. Nearly every year, we witness the devastating effects of tornadoes across our country. The deaths and the damage from these events underscore the need for a world-class weather prediction system.

H.R. 353 improves weather observation systems by the use of observing system simulation experiments and next generation computing and modeling capabilities. This bill strengthens the underlying atmospheric science, while advancing innovative technology and reforming operations to provide better weather data, models, and forecasts. It prompts NOAA to actively employ new commercial data and solutions through a multiyear commercial weather data pilot program.

Further, it directs NOAA to consider commercial data options rather than rely on slow, costly, and continually delayed government-owned satellites.

For far too long, our government has relied on these massive, multibillion-dollar government satellites. The Science, Space, and Technology Committee has jurisdiction over NOAA's satellite office and has conducted ongoing oversight of the agency's satellite program. Our conclusion is that it is in real need of reform.

Over the years, events at NOAA have revealed mismanagement, cost overruns, and delays of its weather satellites. This detracts from our ability to accurately predict our weather, which unnecessarily endangers Americans.

This bill will right the ship and allow NOAA the flexibility to buy new, affordable, and potentially better sources of data from the private sector, which has the power to make real improvements to our weather forecasting capabilities.

It also creates a much-needed technology transfer fund in NOAA's Office of Oceanic and Atmospheric Research to help push technologies developed through NOAA's weather research into operation. This will ensure that the technologies that are developed are effectively employed and do not idle on the lab bench.

Again, I thank Mr. LUCAS and Mr. BRIDENSTINE for their initiative on this issue. Americans from coast to coast will now be better prepared for severe weather with the passage of this bill.

I urge my colleagues to support the bill.

Ms. BONAMICI. Mr. Speaker, I have no further requests for time, and I urge my colleagues to support this bill.

Mr. Speaker, I yield back the balance of my time.

Mr. LUCAS. Mr. Speaker, I yield myself the balance of my time.

Mr. Speaker, I wish to take a moment to thank the gentlewoman from Oregon (Ms. BONAMICI) for all of her efforts to bring us to this point. We still have a ways to go ultimately, but great strides have been made.

I thank my colleague from Oklahoma (Mr. BRIDENSTINE) for his input and efforts and, of course, again, the chairman of the full Science, Space, and Technology Committee, Mr. SMITH of Texas, for helping in that critical role of being the catalyst for all of this.

From the perspective of a farmer, some will say: What does this really mean? But when it comes to trying to gauge how to plant your crops, how to harvest your crops, whether you are a truck driver driving up and down the highways and bi-ways of America, a citizen moving around the country, someone along the coast, or, as Ms. BONAMICI pointed out, a fisherman, this information will make your life more efficient, it will make your life safer, and it will enhance the productive capacity of this country. This is one of those investments that we will all gain from.

Mr. Speaker, I yield back the balance of my time.

Ms. EDDIE BERNICE JOHNSON of Texas. Mr. Speaker, I rise in support of H.R. 353, the Weather Research and Forecasting Innovation Act of 2017.

This bill is the culmination of more than four years of compromise and negotiation, and demonstrates that the issues of weather and climate can be addressed in a bi-partisan way.

In that regard, I want to recognize the efforts of JIM BRIDENSTINE and SUZANNE BONAMICI, as well as the bill's sponsor, FRANK LUCAS. Their leadership and commitment has really driven this process forward.

Mr. Speaker, weather affects all of us everyday. It is a constant presence in our lives.

Tropical storms batter homes and disrupt lives from my home state of Texas all the way to Maine. States like Oklahoma, Illinois, and again Texas are some of the most tornado prone areas in the entire world.

Sadly, turning on the television to see a part of our country devastated by tornados, or hurricanes, or other severe weather incidents, has become a far too familiar occurrence. To help Americans avoid and cope with these potentially devastating events, we need to have the very best weather forecasting and warning capabilities.

The National Weather Service and the Office of Oceanic and Atmospheric Research at NOAA play a central role in protecting the lives and property of every American.

The bill before us today will help accelerate innovation, and turn cutting-edge weather research into essential weather forecasting tools and products; tools which forecasters can then use to protect American lives.

The legislation removes barriers that exist between the weather research community, our nation's forecasters, and the private-sector weather enterprise. Improving collaboration and cooperation within NOAA, and also between the agency and the broader weather community, will impact the accuracy and timing of our weather predictions. These improvements will ultimately save lives and make our communities safer.

Strengthening our resilience to severe weather events is both vital and necessary to strengthen our nation's economic security. H.R. 353 will advance our weather forecasting capabilities and I urge my colleagues to support its passage.

The SPEAKER pro tempore. The question is on the motion offered by the gentleman from Oklahoma (Mr. LUCAS) that the House suspend the rules and pass the bill, H.R. 353.

The question was taken; and (two-thirds being in the affirmative) the rules were suspended and the bill was passed.

A motion to reconsider was laid on the table.

RECESS

The SPEAKER pro tempore. Pursuant to clause 12(a) of rule I, the Chair declares the House in recess until approximately 6:30 p.m. today.

Accordingly (at 5 o'clock and 26 minutes p.m.), the House stood in recess.

□ 1830

AFTER RECESS

The recess having expired, the House was called to order by the Speaker pro tempore (Mr. DONOVAN) at 6 o'clock and 30 minutes p.m.

ANNOUNCEMENT BY THE SPEAKER PRO TEMPORE

The SPEAKER pro tempore. Pursuant to clause 8 of rule XX, proceedings will resume on motions to suspend the rules previously postponed.

Votes will be taken in the following order:

H.R. 315, by the yeas and nays;

H.R. 304, by the yeas and nays.

The first electronic vote will be conducted as a 15-minute vote. The second electronic vote will be conducted as a 5-minute vote.

IMPROVING ACCESS TO MATERNITY CARE ACT

The SPEAKER pro tempore. The unfinished business is the vote on the motion to suspend the rules and pass the bill (H.R. 315) to amend the Public Health Service Act to distribute maternity care health professionals to health professional shortage areas identified as in need of maternity care health services, on which the yeas and nays were ordered.

The Clerk read the title of the bill.

The SPEAKER pro tempore. The question is on the motion offered by the gentleman from Texas (Mr. BURGESS) that the House suspend the rules and pass the bill.

The vote was taken by electronic device, and there were—yeas 405, nays 0, not voting 28, as follows:

[Roll No. 24]

YEAS—405

Abraham
Adams
Aderholt
Aguilar
Allen
Amash
Amodei
Arrington
Babin
Bacon
Banks (IN)
Barletta
Barr
Barragán
Barton
Bass
Beatty
Bera
Bergman
Beutler
Beyer
Biggs
Bilirakis
Bishop (MI)
Bishop (UT)
Black
Blackburn
Blum
Blumenauer
Bonamici
Bost
Brady (PA)
Brat
Bridenstine
Brooks (AL)
Brooks (IN)
Brown (MD)
Brownley (CA)
Buck
Bucshon
Budd
Burgess
Bustos
Byrne
Calvert
Capuano
Carbajal
Cárdenas
Carson (IN)
Carter (GA)
Carter (TX)
Cartwright
Castor (FL)
Castro (TX)
Chabot
Chaffetz
Cheney
Chu, Judy
Cicilline
Clark (MA)
Clarke (NY)
Clay
Cleaver
Clyburn
Coffman
Cohen
Cole
Collins (GA)
Collins (NY)
Comer
Comstock
Conaway
Connolly
Conyers
Cook
Cooper
Costa
Costello (PA)
Courtney
Cramer
Crawford
Crist
Crowley
Cuellar
Culberson
Cummings
Curbelo (FL)
Davidson
Davis (CA)
Davis, Rodney
DeFazio
DeGette
Delaney
DeLauro
DelBene
Demings
Denham
Dent
DeSantis
DeSaulnier
DesJarlais
Deutch
Diaz-Balart
Dingell
Doggett
Donovan
Doyle, Michael F.
Duffy
Duncan (TN)
Dunn
Ellison
Emmer
Engel
Eshoo
Espaillat
Esty
Evans
Farenthold
Faso
Ferguson
Fitzpatrick
Fleischmann
Flores
Fortenberry
Foster
Foxx
Frankel (FL)
Franks (AZ)
Frelinghuysen
Fudge
Gabbard
Gaetz
Gallagher
Gallego
Garamendi
Garrett
Gibbs
Gohmert
Gonzalez (TX)
Goodlatte
Gosar
Gottheimer
Gowdy
Granger
Graves (GA)
Graves (LA)
Graves (MO)
Green, Al
Green, Gene
Griffith
Grothman
Guthrie
Hanabusa
Harper
Harris
Hartzler
Hastings
Heck
Hensarling
Hice, Jody B.
Higgins (LA)
Higgins (NY)
Hill
Himes
Holding
Hollingsworth
Hoyer
Hudson
Huffman
Huizenga
Hultgren
Hunter
Hurd
Issa
Jackson Lee
Jayapal
Jeffries
Jenkins (KS)
Jenkins (WV)
Johnson (GA)
Johnson (LA)
Johnson (OH)
Johnson, E. B.
Johnson, Sam
Jordan
Joyce (OH)
Kaptur
Katko
Keating
Kelly (IL)
Kelly (MS)
Kelly (PA)
Kennedy
Khanna
Kihuen
Kildee
Kilmer
Kind
King (IA)
King (NY)
Kinzinger
Knight
Krishnamoorthi
Kuster (NH)
Kustoff (TN)
Labrador
LaHood
LaMalfa
Lamborn
Lance
Langevin
Larsen (WA)
Larson (CT)
Latta
Lawrence
Lawson (FL)
Lee
Levin
Lewis (GA)
Lewis (MN)
Lieu, Ted
Lipinski
LoBiondo
Loebsack
Lofgren
Long
Loudermilk
Love
Lowenthal
Lowey
Lucas
Luetkemeyer
Lujan Grisham, M.
Luján, Ben Ray
Lynch
MacArthur
Maloney, Carolyn B.
Maloney, Sean
Marchant
Marino
Marshall
Massie
Mast
Matsui
McCarthy
McCaul
McClintock
McCollum
McEachin
McGovern
McHenry
McKinley
McMorris Rodgers
McNerney
McSally
Meadows
Meehan
Meeks
Messer
Mitchell
Moolenaar
Mooney (WV)
Moulton
Mullin
Murphy (FL)
Murphy (PA)
Nadler
Napolitano
Neal
Newhouse
Noem
Nolan
Norcross
Nunes
O'Halleran
O'Rourke
Olson
Palazzo
Pallone
Palmer
Panetta
Pascrell
Paulsen
Payne
Pearce
Pelosi
Peters
Peterson
Pingree
Pittenger
Pocan
Poe (TX)
Poliquin
Polis
Posey
Price (NC)
Quigley
Raskin
Ratcliffe
Reed
Reichert
Renacci
Rice (NY)
Rice (SC)
Richmond
Roby
Roe (TN)
Rogers (AL)
Rogers (KY)
Rohrabacher
Rokita
Rooney, Francis
Rooney, Thomas J.
Rosen
Roskam
Ross
Rothfus
Rouzer
Roybal-Allard
Royce (CA)
Ruiz
Ruppersberger
Rutherford
Sánchez
Sanford
Sarbanes
Scalise
Schakowsky
Schiff
Schneider
Schweikert
Scott (VA)
Scott, Austin
Scott, David
Sensenbrenner
Serrano
Sessions
Sewell (AL)
Shea-Porter
Sherman
Shimkus
Shuster
Sinema
Sires
Slaughter
Smith (MO)
Smith (NE)
Smith (NJ)
Smith (TX)
Smith (WA)
Smucker
Soto
Speier
Stefanik
Stewart
Stivers
Suozzi
Swalwell (CA)
Takano
Taylor
Tenney
Thompson (CA)
Thompson (MS)
Thompson (PA)
Thornberry
Tiberi
Tipton
Titus
Tonko
Torres
Trott
Tsongas
Turner
Upton
Valadao
Vargas
Veasey
Vela
Velázquez
Walberg
Walden
Walker
Walorski
Walters, Mimi
Walz
Wasserman Schultz
Waters, Maxine
Watson Coleman
Weber (TX)
Webster (FL)
Welch
Wenstrup
Westerman
Williams
Wilson (FL)
Wilson (SC)
Wittman
Womack
Woodall
Yarmuth
Yoder
Yoho
Young (AK)
Young (IA)
Zeldin

NOT VOTING—28

Becerra
Bishop (GA)
Blunt Rochester
Boyle, Brendan F.
Brady (TX)
Buchanan
Butterfield
Correa
Davis, Danny
Duncan (SC)
Grijalva
Gutiérrez
Jones
Meng
Moore
Mulvaney
Perlmutter
Perry
Pompeo
Price, Tom (GA)
Ros-Lehtinen
Rush